

REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-27 are presently active in this case. The present Amendment adds Claims 20-27.

In the outstanding Office Action, Claims 1-5, 7-12 and 17-19 were rejected under 35 U.S.C. § 103(a) as unpatentable over Hoshi (JP 58-143389) and Akiyama et al. (U.S. Patent No. 5,977,940, herein referred as "Akiyama"). Claims 6 and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hoshi in view of Akiyama and further in view of Kishimoto (U.S. Patent No. 6,166,714). Claims 13-15 were rejected under 35 U.S.C. § 103(a) as unpatentable over Hoshi in view of Akiyama and in view of Kishimoto and further in view of Kitagawa (U.S. Patent No. 5,831,418).

At the outset, Applicant respectfully requests acknowledgment of Sato et al. (U.S. Pat. No. 5,712,692), previously filed by Information Disclosure Statement on November 21, 2001. Although the PTO 1449 form was returned with the outstanding Office Action of September 17, 2003, Sato et al. was not indicated as considered by the Examiner. Accordingly, acknowledgement of consideration of Sato et al. is respectfully requested.¹

In order to vary the scope of protection recited in the claims, new dependent Claims 20-27 are added. The new Claims find support in the disclosure as originally filed. Specifically, new Claims 20, 21, 24 and 25 find non-limiting support in Applicants' specification at page 4, lines 6-18 and page 5, lines 7-18. New Claims 22 and 26 find non-limiting support in Applicants' specification at page 5, lines 15-16. New Claims 23 and 27 find non-limiting support in Applicants' Fig. 2 and specification at page 5, lines 24-30 and

¹ The acknowledgement was requested by the Amendment dated December 16, 2003.

page 5, line 35 to page 6, line 10. Therefore, new Claims 20-27 are not believed to raise a question of new matter.²

In response to the rejections of Claims 1-5, 7-12 and 17-19 under 35 U.S.C. §103(a), Applicants respectfully request reconsideration of these rejections and traverse the rejections as discussed next.

Briefly recapitulating, Applicants' invention relates to a display device with a data driver and a scan driver for controlling the graphic data supplied to the data lines into the pixels in order to perform a first display; and a memory device driver for controlling the graphic data held in the memory devices into the pixels in order to perform a second display. As explained in Applicants' specification, the claimed invention improves upon conventional display devices by reducing power consumption.³

Turning now to the applied prior art, Hoshi discloses an image display device, wherein a pixel unit comprises switching transistors 5 and 6 and a memory cell 7. Hoshi, however, fails to teach or suggest Applicants' claimed data driver and a scan driver for controlling the write of the graphic data supplied in the data lines into the pixels for a first display **and** a memory device driver to perform a second display. Hoshi states that there are "driving circuits of the signal lines yi ... and gate lines xi."⁴ However, the Hoshi patent discloses that "the image signals [are] inputted to the memory cell via the two paths of the signal line yi."⁵ Hoshi, therefore, does **not** teach or suggest a data driver and scan driver for controlling graphic data supplied to the data lines into the pixels for a first display **and** a memory device driver to perform a second display.

Akiyama also fails to disclose the above features related to the driving circuits to write the graphic data supplied to the data lines into the pixels for a first display **and** a

² See MPEP 2163.06 stating that "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter."

³ See Applicants' specification at page 2, lines 3-7 and page 5, lines 15-16.

⁴ See Hoshi at page 6, lines 5-7.

⁵ See Hoshi at page 6, lines 27-29 and in Fig. 2.

memory device driver to perform a second display. Akiyama discloses a liquid crystal display device with a "data signal [which] is temporarily stored in the storing means so as to delay it"⁶ and teaches that "the liquid crystal display device may comprise a signal line for sending a data signal as an analog signal or a digital signal a storing means for storing the data signal."⁷ Akiyama's data signal stored in the storing means is **not** the claimed driving circuits including data driver and a scan driver that write the graphic data supplied to the data lines into the pixels for a first display, **and** a memory device driver to perform a second display.

Therefore, even if the combination of the Hoshi and Akiyama patents is assumed to be proper, the combination fails to teach every element of the claimed invention. Accordingly, Applicants respectfully traverse, and request reconsideration of, the rejection based on these patents.⁸

Furthermore, the new claims recite features, which the prior art fails to teach or suggest. New Claims 20 and 24 recite that the first display is based on the graphic data **directly** received from the data lines, and wherein the second display is based on the graphic data **directly** received from the memory device. In the Hoshi patent, there is **no** first display based on graphic data directly received from the data lines. Hoshi writes image information to the positive input terminal and the negative input terminal of the memory cell.⁹

New Claims 21 and 25 specify that the data driver and the scan driver are configured to write the graphic data to the pixels without using the memory device nor the memory device driver, and that the memory device driver is configured to write the graphic data from the memory device to the pixels corresponding thereto without using the data driver. None of

⁶ See Akiyama at column 3, lines 55-58 and in Fig. 1A.

⁷ See Akiyama at column 7, lines 36-39.

⁸ See MPEP 2142 stating, as one of the three "basic criteria [that] must be met" in order to establish a *prima facie* case of obviousness, that "the prior art reference (or references when combined) must teach or suggest all the claim limitations," (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

⁹ See Hoshi at page 5, lines 5-11.

the prior art references disclose these features. In Hoshi, as well as in Akiyama, pixels are written to memory cells before displayed by the pixels itself.^{10, 11}

New Claims 22 and 26 recite that the first display is configured to show at least one of a half-tone image, a full-color image or a moving image and the second display is configured to show a still image. Hoshi teaches away from displaying half-tone images.^{12, 13}

New Claims 23 and 27 recite that the data driver and the scan driver are configured to write an analog graphic data to the pixels, and the memory device driver is configured to write a binary graphic data to the memory devices. Akiyama teaches the presence of analog signals and digital signals. However, Akiyama states that "analog data is converted into digital data by an analog-digital converter (ADC) or the like and stored."^{14, 15} Therefore, the Akiyama patent fails to write an analog graphic data to the pixels.

Consequently, in view of the present Amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-27 is earnestly solicited.

¹⁰ See Hoshi at page 5, line 5.

¹¹ See Akiyama at col. 6, lines 6-7.

¹² See Hoshi at page 6, lines 5-7.

¹³ See Hoshi at page 3, lines 24-27.

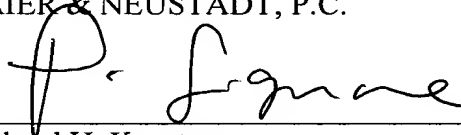
¹⁴ See Akiyama at col. 4, lines 32-37.

¹⁵ See Akiyama at col. 6, lines 1-12.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

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